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DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.
2200 ROSS AVENUE
SUITE 2800
DALLAS, TX 75201-2784

EXAMINER

MATTIS, JASON E

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

10

Office Action Summary	Application No. 10/010,935	Applicant(s) PRAGER ET AL.	
	Examiner Jason E. Mattis	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 48-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Response to Election/Restriction filed 3/22/06. The claims of Group I (claims 1-47) have been elected and thus the claims of Group II (claims 48-61) are withdrawn from consideration.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, 9-12, 14, 22, 33-34, 36-37, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Spaling et al. (U.S. Publication US 2002/0077113 A1).

With respect to claim 1, Spaling et al. discloses a wireless communications system (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to mobile radio cellular communications system 10, which is a wireless communications system). Spaling et al. also discloses a first subsystem having a first subscriber data interface and a first digital interface (See page 3 paragraph 39, page 5

paragraph 47, and Figures 1 and 5 of Spaling et al. for reference to radio network controller 22, which is a first subsystem, having an interface “To/From other networks”, which is a first subscriber data interface, and having network interface 52, which is a first digital interface). Spaling et al. further discloses that the first subscriber data interface provides an interface compatible with a first general purpose protocol **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the interface “To/From other networks” being an interface to networks such as the PSTN, the Internet, etc., meaning the interface uses a first protocol compatible with the type of network it is connected to).** Spaling et al. also discloses that the first digital interface provides an interface compatible with a protocol other than the first general purpose protocol **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the network connections that connects the RNS to the base stations being optical fiber links, meaning an optical fiber protocol is used for these links).** Spaling et al. further discloses a second subsystem having a second subscriber data interface and a second digital interface **(See page 3 paragraph 39, page 5 paragraph 48, and Figures 1 and 5 of Spaling et al. for reference to base station 16, which is a second subsystem, having a wireless interface, which is a second subscriber data interface, and having network interface 60, which is a second digital interface).** Spaling et al. also discloses that the second subscriber data interface provides an interface compatible with a wireless protocol **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the interface being a wireless interface, meaning the interface must use a wireless protocol to**

communicate). Spaling et al. further discloses that the second digital interface is coupled to the first digital interface to provide communication of data between the subscriber data interfaces **(See page 3 paragraph 39, page 5 paragraphs 47-48, and Figures 1 and 5 of Spaling et al. for reference to network interface 52 being coupled to network interface 60 to provide communications from the wireless interface of the base station to the other network interface of the RNC).**

With respect to claim 6, Spaling et al. discloses that the first subsystem provides only digital processing of the subscriber data **(See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by the base station, meaning the RNC only performs digital processing of data).**

With respect to claim 9, Spaling et al. discloses that the first digital interface comprises a fiber optic interface **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links).**

With respect to claim 10, Spaling et al. discloses that the second subsystem provides all analog processing of subscriber data **(See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by the base station, meaning the RNC only performs digital processing of data).**

With respect to claim 11, Spaling et al. discloses that the second subsystem comprises a frequency converter **(See page 5 paragraph 48 and Figure 5 of Spaling**

et al. for reference to the base station having radio processors that convert signals to radio frequencies for transport).

With respect to claim 12, Spaling et al. discloses that the second subsystem comprises at least one amplifier **(See page 5 paragraph 48 and Figure 5 of Spaling et al. for reference to the base station having a power controller that controls an amplifier to send wireless signals).**

With respect to claim 14, Spaling et al. discloses that the second digital interface comprises a fiber optic interface **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links).**

With respect to claim 22, Spaling et al. discloses a third subsystem with a third subscriber data interface compatible with the wireless protocol and a third digital interface coupled to the first digital interface to provide communication between the first and third subscriber interfaces **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to another base station 18, which is a third subsystem, with the same components as base station 16 and for reference to base station 18 also being coupled to the network interface of the RNC 12).**

With respect to claim 33, Spaling et al. discloses a method for providing wireless subscriber data signal processing **(See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to a radio cellular communications system 10 implementing a wireless data signal processing method).** Spaling et al. also discloses providing a first signal processing subsystem providing only digital signal

processing and a second signal processing subsystem providing analog and digital signal processing of subscriber data signals (**See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by a base station, which is a second signal processing subsystem, meaning a RNC, which is a first signal processing subsystem, only performs digital processing of data while the base station performs both digital and analog processing**).

Spaling et al. further discloses coupling the first and second signal processing subsystems using a digital link (**See page 3 paragraph 39, page 5 paragraphs 47-48, and Figures 1 and 5 of Spaling et al. for reference to coupling the base station to the RNC using optical fiber links, which are digital links**).

With respect to claim 34, Spaling discloses that the digital link comprises a fiber optic link (**See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links**).

With respect to claim 36, Spaling et al. discloses coupling the first subsystem to a subscriber data communication backbone (**See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to an interface “To/From other networks” being an interface that couples the RNC to other networks, which are subscriber data communication backbone networks**).

With respect to claim 37, Spaling et al. discloses that the communication backbone comprises the Internet (**See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the RNC being coupled to the Internet**).

With respect to claim 42, Spaling et al. discloses coupling the second subsystem to a wireless subscriber data communication channel (**See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to a wireless interface of a wireless communication channel**).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Van Lieshout et al. (U.S. Publication US 2004/0203714 A1).

With respect to claims 2 and 38, Spaling et al. does not disclose using a protocol selected from the group of T1, T3, E1, E3, OC-1, OC-3, OC-12, and ISDN.

With respect to claims 2 and 38, Van Lieshout et al., in the field of communications, discloses using ISDN (**See page 1 paragraph 8 of Van Lieshout et al. for reference to a RNC using ISDN protocol in a backhaul connection to another network**). Using ISDN protocol has the advantage of allowing the users of the wireless network to communicate with users of an ISDN network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Van Lieshout et al., to combine using ISDN, as suggested by Van Lieshout et al., with the system and method of Spaling et al., with the motivation being to allow the users of the wireless network to communicate with users of an ISDN network.

6. Claims 3 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Eyuboglu et al. (U.S. Publication US 2002/0196749 A1).

With respect to claims 3 and 39, Spaling et al. does not disclose using Ethernet protocol.

With respect to claims 3 and 39, Eyuboglu et al., in the field of communications, discloses using Ethernet protocol (**See page 1 paragraph 5 of Eyuboglu et al. for reference to a RNC using Ethernet protocol in a backhaul connection to another network**). Using Ethernet protocol has the advantage of allowing the users of the wireless network to communicate with users of an Ethernet network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Eyuboglu et al., to combine using Ethernet, as suggested by Eyuboglu et al., with the system and method of Spaling et al., with the motivation being to allow the users of the wireless network to communicate with users of an Ethernet network.

7. Claims 4, 40, and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Marin et al. (U.S. Publication US 2002/0174441 A1).

With respect to claims 4, 40, and 47, Spaling et al. does not disclose using SONET protocol, which is a synchronous signal protocol.

With respect to claims 4, 40, and 47, Marin et al. discloses using SONET protocol (**See page 2 paragraph 25 and Figure 2 of Marin et al. for reference to using SONET protocol in a backhaul connection**). Using SONET protocol has the advantage of allowing the users of the wireless network to communicate with users of a SONET network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Marin et al., to combine using SONET protocol, as suggested by Marin et al., with the system and method of Spaling et al., with the motivation being to allow the users of the wireless network to communicate with users of a SONET network.

8. Claims 5, 28-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al.

With respect to claims 5 and 35, although Spaling et al. does not disclose that the RNC is an indoor unit and the base station is an outdoor unit, having an RNC as an indoor unit and a base station as an outdoor unit is old and well known in the art of communications. Having an RNC as an indoor unit and a base station as an outdoor unit has the advantage of allowing the equipment of the RNC to be protected from the

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elements in an indoor environment while allowing the signal strength of the wireless signal sent from the base station to be maximized by having the base station in an open environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine having an RNC as an indoor unit and a base station as an outdoor unit with the system and method of Spaling et al., with the motivation being to allow the equipment of the RNC to be protected from the elements in an indoor environment while allowing the signal strength of the wireless signal sent from the base station to be maximized by having the base station in an open environment.

With respect to claims 28-31, although Spaling et al. does not specifically disclose using multi-port data routing and multi-port data switching, these functionalities are old and well known in the art of communications. Using multi-port data routing and multi-port data switching has the advantage of allowing multiple data links to be connected from one device to many other devices using the same network interface.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine using multi-port data routing and multi-port data switching with the system and method of Spaling et al., with the motivation being to allow multiple data links to be connected from one device to many other devices using the same network interface.

With respect to claim 32, although Spaling et al. does not specifically disclose providing broadband interfaces, providing broadband interfaces for a wireless network as well as a wired backhaul network is old and well known in the art of communications.

Providing broadband interfaces for a wireless network as well as a wired backhaul network has the advantage of providing high-speed data services to users of the system.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine providing broadband interfaces for a wireless network as well as a wired backhaul network with the system and method of Spaling et al., with the motivation being to provide high-speed data services to users of the system.

9. Claims 7-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Dapper et al. (U.S. Pat. 6275990 B1).

With respect to claims 7-8 and 13, Dapper et al. does not disclose using an OFDM digital modem and a digital multiplexer to process signals.

With respect to claims 7-8 and 13, Dapper et al., in the field of communications, discloses using an OFDM digital modem and a digital multiplexer to process signals **(See column 78 line 51 to column 80 line 10 and Figure 37 of Dapper et al. for reference to using a digital OFDM modem and a digital multiplexer to process signals)**. Using an OFDM digital modem and a digital multiplexer to process signals has the advantage of allowing a system to process and route OFDM signals on multiple channels such that bandwidth is used more efficiently.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Dapper et al., to combine using an OFDM digital modem and a digital multiplexer to process signals, as suggested by Dapper et

al., with the system and method of Spaling et al., with the motivation being to allow a system to process and route OFDM signals on multiple channels such that bandwidth is used more efficiently.

10. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Cam et al. (U.S. Publication US 2002/0126704 A1).

With respect to claims 15-20, Spaling et al. does not disclose using SONET, which is a synchronous communication protocol, with training and timing overhead bits added.

With respect to claims 15-20, Cam et al., in the field of communications, discloses using SONET, which is a synchronous communication protocol, with training and timing overhead bits added **(See page 1 paragraph 10 and page 2 paragraph 16 of Cam et al. for reference to using SONET protocol with training and timing overhead bit patterns)**. Using SONET protocol with training and timing overhead bit patterns has the advantage of using a well-known protocol to communicate quickly and efficiently communicate information in a fiber optic link.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cam et al., to combine using SONET protocol with training and timing overhead bit patterns, as suggested by Cam et al., with the system and method of Spaling et al., with the motivation being to use a well-known protocol to communicate quickly and efficiently communicate information in a fiber optic link.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Cam et al., as applied to claims 15-20 above, and in further view of Barsheshet (U.S. Publication US 2003/0043738 A1).

With respect to claim 21, the combination of Spaling et al. and Cam et al. does not disclose using resilient packet ring access protocol.

With respect to claim 21, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (**See page 1 paragraph 4 for reference to using resilient packet ring access protocol**). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method of Spaling et al. and Cam et al., with the motivation being to use a high-speed efficient packet communication protocol.

12. Claims 23-27 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Schilling (U.S. Publication US 2003/0161386 A1).

With respect to claims 23 and 43, Spaling et al. does not disclose that the third subsystem is connected to the first subsystem through the same link that connects the first subsystem and the second subsystem.

With respect to claims 23 and 43, Schilling discloses subsystems linked together in a daisy chain (**See page 3 paragraphs 36-40 and Figure 2 of Schilling for reference to base stations and a controller linked together in a daisy-chain**).

Using subsystems linked together in a daisy chain has the advantage of allowing the amount of fiber used to connected the system to be reduced since all subsystems do not need to connect to a central subsystem directly.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Schilling, to combine using subsystems linked together in a daisy chain, as suggested by Schilling, with the system and method of Spaling et al., with the motivation being to allow the amount of fiber used to connected the system to be reduced since all subsystems do not need to connect to a central subsystem directly.

With respect to claims 24-25 and 44-45, Spaling et al. discloses multiple subsystems connected directly to a multi-port device the first subsystem using fiber optic links (**See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to both base stations 16 and 18 connected directly to RNC 12 through multiple ports of the RNC 12 using optical fiber links**).

With respect to claims 26-27, although Spaling et al. and Schilling do not specifically disclose using multi-port data routers and multi-port data switches, these

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devices are old and well known in the art of communications. Using multi-port data router and multi-port data switches has the advantage of allowing multiple data links to be connected from one device to many other devices using the same network interface.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine using multi-port data router and multi-port data switches with the system and method of Spaling et al. and Schilling, with the motivation being to allow multiple data links to be connected from one device to many other devices using the same network interface.

13. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Barsheshet.

With respect to claim 41, Spaling et al. does not disclose using resilient packet ring access protocol.

With respect to claim 41, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (**See page 1 paragraph 4 for reference to using resilient packet ring access protocol**). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method

of Spaling et al., with the motivation being to use a high-speed efficient packet communication protocol.

14. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Schilling as applied to claims 23-27 and 43-47 above, and further in view of Barsheshet.

With respect to claim 46, the combination of Spaling et al. and Schilling does not disclose using resilient packet ring access protocol.

With respect to claim 46, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (**See page 1 paragraph 4 for reference to using resilient packet ring access protocol**). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method of Spaling et al. and Schilling, with the motivation being to use a high-speed efficient packet communication protocol.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jem


HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600